

Journal of Applied Cosmetology

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OFFICIAL JOURNAL OF

International Society of Cosmetic Dermatology

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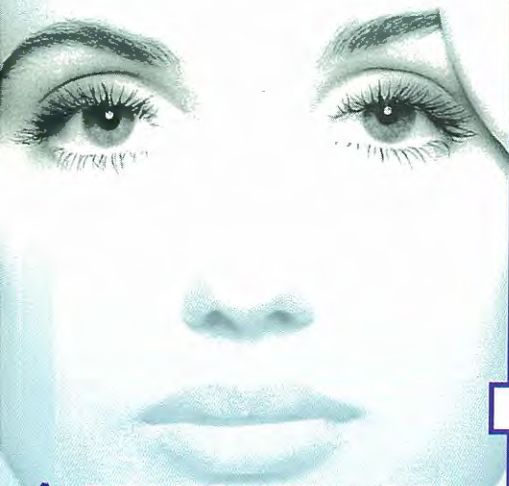

INTERNATIONAL
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Volume 21 - Number 2
April/June 2003

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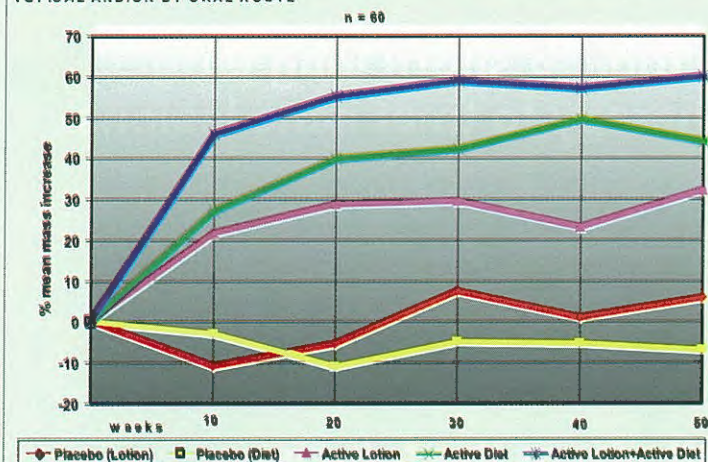
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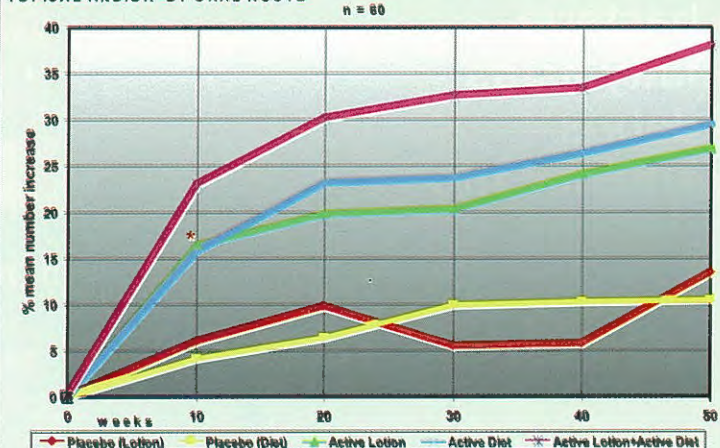
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increase in
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MEAN PERCENTAGE VARIATION OF TOTAL HAIR MASS PER cm^2 OF PATIENTS WITH ANDROGENETIC ALOPECIA TREATED BY GELATIN-CYSTINE AND SERENOA REPENS TOPICAL AND/OR BY ORAL ROUTE



All p values are highly significant ($p < 0.005$) as baseline value as to groups

MEAN PERCENTAGE VARIATION OF HAIR NUMBER PER cm^2 OF PATIENTS WITH ANDROGENETIC ALOPECIA TREATED BY GELATIN-CYSTINE AND SERENOA REPENS TOPICAL AND/OR BY ORAL ROUTE



All p values are highly significant ($p < 0.005$) as baseline value as to groups * Not significant

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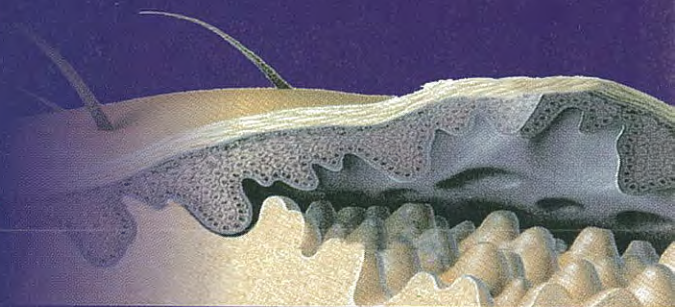
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Contents

General Articles

47 Natural Cosmetology": innovative approaches to ameliorate the skin barriers

G. Biagini, F. Gabbanelli, F. Giantomassi, L. Virgili and M. Mattioli-Belmonte

53 Perspectives in cosmetic-vigilance

G. Salvatore

61 Information sources for cosmetic industry professionals on the internet

A. Bozic

Original Laboratory Studies

71 The effects of hormon replacement therapy on the skin of the postmenopausal women

U. Uksal, Ç. Atasavun, B. Özçelik, S. Utaş, A. Ferahbas

75 Book Reviews

XIV Announcements

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"NATURAL COSMETOLOGY": INNOVATIVE APPROACHES TO AMELIORATE THE SKIN BARRIERS

G. Biagini, F. Gabbanelli, F. Giantomassi, L. Virgili and M. Mattioli-Belmonte

Istituto di Morfologia Umana Normale, University of Ancona, Italy.

Received: February, 2002 - Presented at the ISCD International Congress "Nutri-cosmeceuticals: a challenge for the future?", 6-8 February - 2002, Roma - Italy

Key words: "green cosmetology", nanostructure, morphology

Summary

Over the last few years, gelatin and chitosan have been widely used in cosmetology as active materials to maintain and/or improve skin-barrier functions. Their different structural and bio-functional characteristics appear to suggest different conditions of elective application.

Chitosan seems mainly suitable to maintain a high level of skin hydration with a parallel improvement in tissue homeostasis preventing water evaporation at the cutis-environment surface. By contrast, gelatin seems to be more suitable to stimulate poorly reactive skin microenvironments by virtue of its more prolonged in situ bio-presence compared with chitosan.

The association of chitosan and gelatin could offer considerable advantages as their main "stimulation" attitudes evolve through different bio-temporal pathways.

Riassunto

I nostri studi sono rivolti alla progettazione di molecole cosmetologiche che possano creare per le generazioni future una miglior presa sui sistemi ecologici di *life support*. Nel corso di ultimi anni, la gelatina e il chitosano sono stati ampiamente usati in cosmetologia quali materiali attivi per mantenere e/o migliorare le funzioni di barriera della pelle.

Le loro differenti caratteristiche biofunzionali e strutturali sembrano suggerire differenti condizioni di applicazione elettiva. Il chitosano sembra soprattutto adatto a mantenere un elevato livello di idratazione della pelle con un parallelo miglioramento dell'omeostasi tessutale, impedendo l'evaporazione dell'acqua a livello dell'interfaccia cute-ambiente.

La gelatina, grazie alla sua prolungata bio-presenza in situ rispetto al chitosano, sembra essere più adatta a stimolare i microambienti cutanei scarsamente reattivi. Pertanto l'associazione di chitosano-gelatina può offrire considerevoli vantaggi.

The Cosmetological Industry is continually synthesising new chemicals, the regulation of which requires assessment of their potential danger. Risk assessment is nowadays considered essential to taking these decisions on a scientifically sound basis; developing natural, biological cosmetical products, avoiding industrial chemical alternatives, seems a select key-route. We shall therefore briefly consider some natural molecular substances products aimed at improving skin barrier permeability and at addressing other dermal-cosmetological occurrences.

The skin carries out a number of functions; among which that of barrier is a major one. Intact healthy skin prevents fluids from flowing out transepidermally and germs and foreign matter from penetrating. Basically, the barrier function carried out by the horny layer, which develops via keratinocyte differentiation into horny layers and the intercellular accumulation of lipids. Thus, skin permeability depends largely on how lipids are arranged in the cells of the outer layers. Though quite similar to other biological membranes, these lipidic lamellas partly differ from them in lipid content and structure.

Among molecules other than lipids, polysaccharides as chitin and its derivatives are known as enhancer of pericellular and intracellular pathways, affecting higher functions and free plasma membrane surfaces. Aminoacids such as L-Arginine (poly L-arg) are also enhancer of transepithelial absorption. The barrier function thus seems to involve both lipid organisation and protein structures.

In the skin, cross-talks between arginine and glycine are becoming more and more evident. It is conceivable that nitric oxide (NO), which is generated in vivo through conversion of L-arginine to citrulline by NO synthase (NOS), may represent a cellular switch that changes the epithelial phenotype from stationary to locomotive. Glycine also seems to be deeply involved in the modulation of skin micro-environmental

metabolism. The presence of glycine - which is structurally diffuse in tissues - within peptide RDG, which represents an important binding site between extracellular environment and cells, seems to be involved in cell proliferation, differentiation and migration processes. The soluble RGD module also stimulates collagenase production. Exogenous glycine may therefore have a strengthening role of the glycine present in tissue stromal RGD motifs, and its attachment to artificial substrates seems to promote cell adhesion (Figs 1-2).



Fig. 1 Cell culture on Glycine Substrata



Fig. 2 Sem Micrograph of cell adhesion on Glycine substrate

Work performed by our group seems to indicate that the presence of glycine bound to substrates such as gelatin promotes the adhesion and proliferation of keratinocytes, and lends further support to the notion that the association of glycine and arginine may contribute to improve cutaneous trophism in the medical-cosmetological field.

Carbohydrates can also significantly affect protein structure as glycoproteins and therefore influence protein functions. Carbohydrates are also used as tags to sort proteins in the Golgi apparatus, by targeting them to specific compartments within the cell or directing them to the cell surface. It is known as after a skin lesion, a series of reparative events begin to take place that range from homeostasis to inflammation, neoangiogenesis and, ultimately, fibroblastic and epithelial proliferation. These natural repair processes may be hampered by several exogenous and endogenous factors like microbial flora and/or venous stasis. We are thus called upon to devise means that prevent and reduce the onset of these complications but also favour and where possible accelerate cellular and extracellular metabolism.

Our research has outlined the possibility of using bioactive compounds such as collagens, GAG, and fibronectin, which are naturally occurring extracellular-matrix compounds that interact with various cell-adhesion molecules called integrins to improve skin homeostasis.

In our experiments, we used a gelatin-based dressing in the form of stiff sheets to supply the repairing skin tissue with mechanical support. Gelatin - which derives from the denaturation of collagen is endowed with metabolical stimulation properties that favour the correct recovery of the skin barrier. The gelatin sheets were obtained by cross-linking with low - concentration glutaraldehyde (GTA) solutions. Excess GTA was rinsed off with several washes in glycine, which enhances the results on the repairing skin environment, as previously outlined (Fig. 3).



Fig. 3 Wound healing in the presence of Glycine device

In line with other recent works, we also observed that molecules such as chitosan seem to favour the early phases of skin repair, while gelatin appears to promote cell proliferation and the production of extracellular matrix, which are characteristic of typical phases of skin stable reconstitution.

Our data can thus contribute to design a dermo-cosmetical protocol based on the utilisation of different natural molecules (also in the presence of low-concentrations of a biocidal ones such as AgSD, which is used to control infective activities in burned and debilitated patients). In fact gelatin has been seen to strongly favour the deposition of collagen fibres rather than cell proliferation at the level of both stromal and vascular elements in different experimental models. Collagen and gelatin macromolecules entrap platelets in early fibrin clots, with PDGF release and neosynthesis of extracellular matrix.

In addition polysaccharide such as hyaluronic acid, by virtue of their large hydrated molecular volume and its ability to form molecular matrix, can expand interfibrillar collagen spaces to allow cell movements. Signal molecules interacting with specific cell membrane binding sites

are involved in this intriguing regulatory controls of cell traffic and perhaps also cell differentiation during embryogenesis and regeneration.

In the light of these data, we studied the behaviour of epithelial cells (Keratinocytes NCTC 2544) cultured on gelatine microstructured with hyaluronic acid (Hyal) or sulfated hyaluronic acid (HyalS) to evaluate the possibility of applying these molecules to stimulate the methabolic processes of a soft tissue as cutis (Fig. 4).

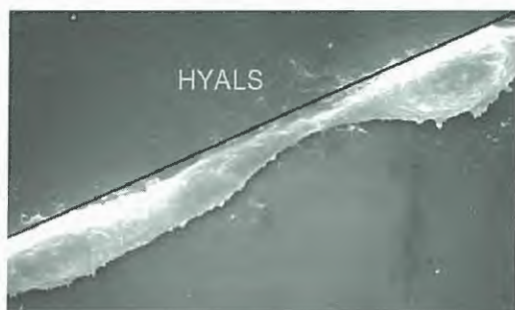


Fig. 4 Cell adhesion on hyals

Hyaluronic acid was deposited in the form of strip- like nanostructures on a homogeneous substrate, represented by gelatin sheets (Fig. 5).

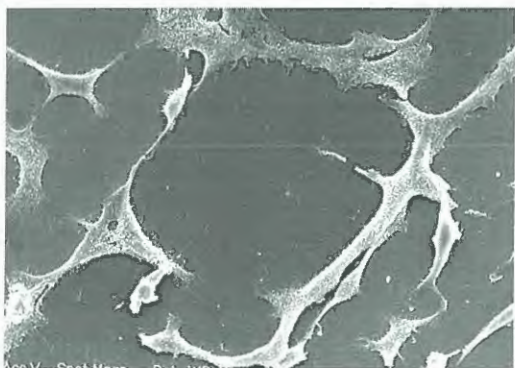


Fig. 5 Cell Behaviour on hyal deposited onto gelatin sheets

The quantitative- morphometric analysis of cell behaviour on this biomaterial coated with Hyals showed as a characterizing element that such behaviour depends partly on the nature of the substrate, and in large part on the topography of

the strips of hyaluronic acid deposited on it. From a functional standpoint, as the cells in contact with the strips tended to arrange themselves parallel to them (which entails an active cellular locomotion phenomenon), it was observed that this occurred to a greater extent with 100 and 25 mm structures than with 50 and 10 mm ones. Indeed, in the larger structures (100 mm), which had wider interstrip spaces, cells were more numerous in these spaces, possibly because they were less sensitive to the ordered migratory stimulus provided by the structuring at 25mm (Fig 6).

Rather than a concept based on defined parameters, the "fragility" of the cutis is a situation that often obtains as a consequence of both increased life expectancy and environmental stress stimuli. It results in a series of borderline morphostructural and functional conditions that are of interest also to cosmetology. For these subjects halfway between the competence of the dermatologist and that of the "cutaneous hygiene expert", the utilisation of normal natural factors such as growth factors should be accepted also in the cosmetological field.

The develop of cosmetological products that for instance re-establish a good cutaneous vascularity and thus a better trophism should be undertaken and standardized. Because they are able to re- establish a good vascular network, factors such as VEGF associated with vehicles typical of cosmesis are to be considered as an operational time reality. The research towards health promotion and protection is redesigning our biomolecular knowledge.

Our group is studying the action of VEGF on skin explants: its use in vivo is not allowed at present, but in my opinion it is only a question of time and commitment.

In conclusion, we must address our attention to peculiar understanding "Humanity like all of nature's bounty is a product of evolution and a dipendence and an affinity for NATURE are undeniable components of the human community also for Dermal Cosmetological occurrences".

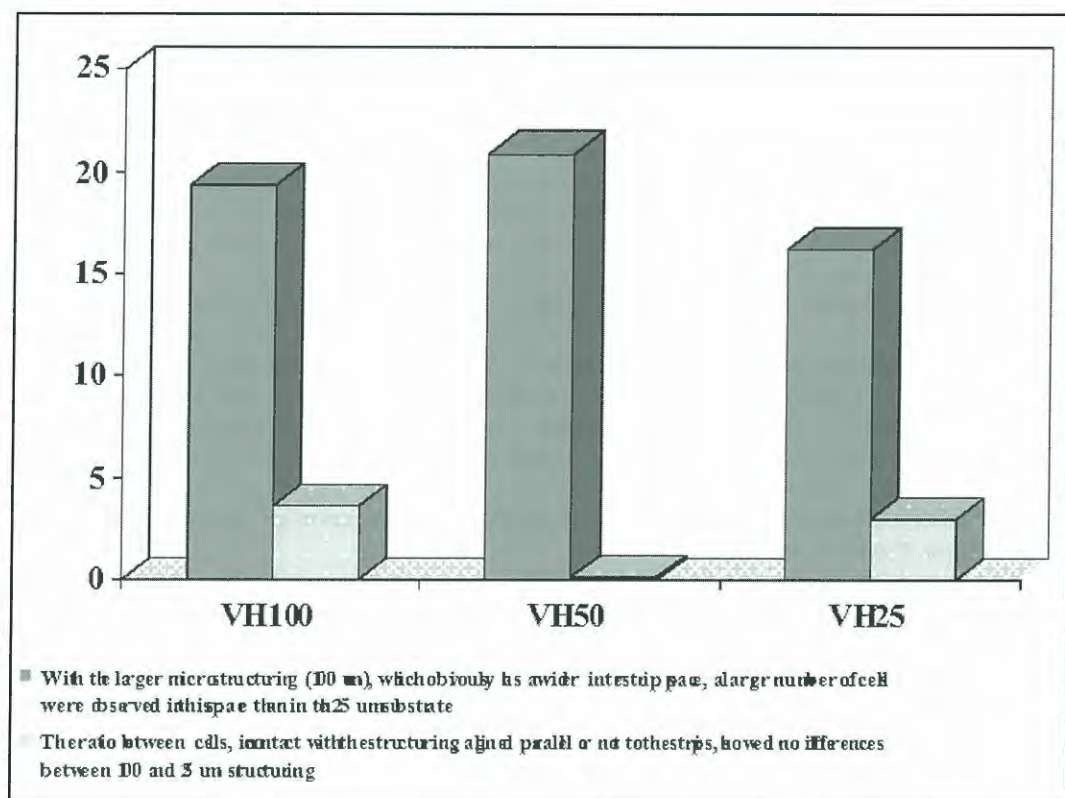


Fig. 6 Histogram of cell behaviour

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PERSPECTIVES IN COSMETIC-VIGILANCE

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Received: February, 2002

Key words: Cosmetics, Cosmetic-vigilance; Safety

Summary

The national surveillance system, provided for by legislative decree n. 126 dated April 24th 1997 (modifying the law n. 713 dated October 11th 1986 and especially concerning safety of the cosmetic products) is not concretely and uniformly used in the national territory and is not subjected to central co-ordination by Public Administration. Actions carried out by more active Regions and others organisms of the Public Administration suggest a possible way to act at least during the initial experimental phase. Among them it is worth mentioning the basic professional training course on Cosmetic Surveillance organized by the High Institute of Health (Rome, September 27th-29th 2000) in which supervision operations carried out by some regions have been included.

Since the specifications of the above mentioned course have been recently published, we suggest referring to them in order to carefully examine the situation.

A first step is to understand the real meaning of Cosmetic Surveillance. Instead of monitoring the undesired effects only, it is important to undertake a more global action characterized by the prevention and safety criteria of cosmetic uses as specified in the above mentioned LD n. 126 and including the examination of conformity with the laws in force.

Moreover, on the basis of a previous pilot study carried out in the Regione Lazio, we suggest the following initiatives:

- census of cosmetic manufacturing, packaging and exporting industries in each region;
- drawing up of a notified ingredients form;
- drawing up of a product form;
- setting up of a method to report all undesired effects (family doctor, dermatologist, chemist, center for antidotes) through an adequate form for data collection;
- definition of an interregional pilot program of surveillance.

The most important and useful elements on this topic will be discussed.

Riassunto

Il sistema nazionale di sorveglianza, previsto dal decreto legislativo 24 aprile 1997, n. 126 (che modifica la legge 11 ottobre 1986, n. 713, soprattutto per la parte della sicurezza d'impiego dei cosmetici), non trova ancora modalità operative concrete e uniformi sul territorio nazionale e sfugge ad un coordinamento centrale assicurato dalla Amministrazione pubblica. Le azioni svolte al riguardo dalle Regioni più attive, insieme ad altre intraprese in ambienti dell'Amministrazione pubblica, suggeriscono una possibile traccia da seguire almeno in una fase sperimentale iniziale. Tra queste si cita il corso di formazione di base sulla Cosmeticosorveglianza organizzato dall'Istituto Superiore di Sa-

nità (Roma, 27 - 29 settembre 2000) in cui è stato dato spazio anche alle azioni di vigilanza effettuate da alcune regioni. Poichè di questo corso ne sono stati di recente pubblicati gli atti, a questi si rimanda per un esame attento della situazione, cogliendone qui solo quegli elementi di discussione più importanti e più utili ai fini di questa tavola rotonda.

Una prima riflessione riguarda il significato di cosmeticosorveglianza. Ad una azione rivolta al solo monitoraggio degli effetti indesiderati si è preferito puntare ad una azione più globale che, ispirata ai criteri di prevenzione e di sicurezza d'impiego dei cosmetici di cui è intessuta l'intera normativa citata, includesse la verifica di ogni conformità alle norme vigenti.

Inoltre, sulla base di una precedenza esperienza maturata nell'ambito di uno studio pilota effettuato presso la Regione Lazio si possono suggerire le seguenti iniziative:

- censimento per regione delle imprese produttrici, confezionatrici ed importatrici di cosmetici;
- elaborazione di una scheda per gli ingredienti notificati;
- elaborazione di una scheda per i prodotti;
- individuazione del possibile percorso per la notifica degli effetti indesiderati (medico di famiglia, dermatologo, farmacista, centri antiveleni) mediante l'uso di una idonea scheda di rilevamento dei dati;
- definizione di un programma interregionale pilota sulla sorveglianza.

Questi indirizzi già attuati in alcune regioni sono qui discussi.

INTRODUCTION

The national surveillance system, provided for cosmetics by legislative decree n. 126 dated April 24th 1997 (modifying the law n. 713 dated October 11th 1986 and especially concerning safety of cosmetic products) is not concretely and uniformly used in the national territory and is not subjected to central co-ordination by Public Administration. Actions carried out by more active Regions and other organisms of the Public Administration suggest a possible way to act at least during the initial experimental phase. Among them it is worth mentioning the basic professional training course on Cosmetic Surveillance organized by the High Institute of Health (Rome, September 27th-29th 2000) in which some operations of surveillance carried out by some regions have been included.

Since the specifications of the above mentioned course have been recently published, we suggest referring to them in order to carefully examine the situation. In this report we'll only discuss the most important and useful elements for our aims.

A first step is to understand the real meaning of Cosmetic Surveillance. Instead of monitoring the undesired effects only, it is important to undertake a more global action characterized by the prevention and safety criteria of cosmetic uses as specified in the above mentioned LD n. 126/1997 and including the examination of conformity with the laws in force.

THEREFORE CONSIDERED THE INVOLVED SUBJECTS:

- the Public Administration (Ministry of Health, Ministry of Industry and Commerce and artisanship, Ministry of Labour and Social Security and High Institute of Health);
- regional and independent and local provinces authorities;

- cosmetic manufacturing and importing industries;
- raw materials manufacturing and distributing industries;
- the technical manager, security appraiser and imported products expert;

It is necessary to analyze the single points that are fundamental for cosmetic surveillance and the related verifications of conformity with the law in force. Here follow some of these points: - the prohibition of the use of specific substances; - the use of precisely authorized or freely useable ingredients in any case according to methods assuring they are harmless under the responsibility of cosmetic manufacturing or exporting industries considering that raw material manufacturing and distributing industries must supply the required information; - raw materials and cosmetic preparations chemical and microbiological purity criteria; - analysis methods for products composition determination; - labeling including information about the product function and the list of ingredients; - the dossier of the information regarding the commercial product that must include safety evaluation elements and data of possible undesired effects caused by the application of the product itself (this record must be at the disposal of the Ministry of Health); - the use of good practices for laboratory (GLP) and manufacturing process (GMP) and quality assurance; - products of dubious appurtenance to the cosmetic category and deceptive advertising; - hygiene and health risks in industrial manufacturing; - inspection checks in manufacturing and storage facilities and customs checks; - possible computerized management of data regarding raw materials and undesired effects complaints.

As for the last point, it is necessary provide for adequate methods for:

- the notification to the Ministry of Health of undesired effects connected to cosmetic use

given by:

- a) regional and local health authorities through notices within January and July each year;
- b) citizens themselves according to the procedures that will be stated by the Ministry of Health;
- a six-month-diffusion of data regarding undesired effects of cosmetics provided by the Ministry of Health;
- the issue in the Official Gazette of notices regarding cosmetic preparations withdrawal from the market;
- consultation of the High Institute of Health and the High Health Council for the evaluation of information regarding both undesired effects and the dossier of information.

The reason why cosmetic surveillance is carried out only in some regions is that law lends itself to interpretation and has got gaps which we must discuss about.

The global process for the evaluation of cosmetic compliance with the law is based on three fundamental concepts that must be coherently considered according to the nature and application of the product itself:

1. Effectiveness.
2. Safety (application of good laboratory practice requirements, GLP, provided for in the decree law 120/1992).
3. Quality (application of good manufacturing practice requirements, GMP, and quality assurance system).

Indications of conformance specifically provided for in the LD 126/1997 have been specified in brackets.

The described approach is considered the most correct and should guarantee public health to a greater extent. Since some issues of the LD 126/1997 are still pending, the evaluation process of the three parameters on effectiveness, quality and safety remain incomplete, ambiguous or variable.

We must ensure that quality is achieved by cor-

rect procedures in manufacturing and packaging operations in compliance with GMP applications. The technical manager and the entrepreneur are responsible for this. On the contrary, if products are not imported from countries belonging to the European Union, an expert must guarantee the standard of the manufacturing method used. With regard to the afore mentioned, there are two important issues that need further consideration in the LD 126/1997.

That is:

- a) The Ministry of Health together with the Ministry of Industry and Commerce and Artisanhip and the Ministry of Labour and Social Security will be issuing an act regarding GMP concepts in compliance with community requirements. Until that moment, the regulations of the MD 328/1987 regarding the general suitability standards of premises and equipments of cosmetic manufacturing factories will remain valid. The European Union is still examining a basic policy.
- b) Inspection checks carried out by regions in all manufacturing factories and importers' warehouses within their territorial competence are aimed at verifying the compliance with the law 713/1986 and their quality certification system, if adopted. The time spent on inspections is decided by the regions themselves. They must report all negative outcomes collected to the Ministry of Health. If things remain as described, inspection checks will still be carried out without co-ordination on the national territory.

Even if the LD 126/1997 provides for a product effectiveness proof, it does not specify the cosmetic functions to be proved nor the criteria to be used. Obviously, in order to assure the coexistence of other safety and quality characteristics during the different phases of cosmetic preparation planning, producing and manufacturing, it

would be useful to study the effectiveness of the cosmetic. Unfortunately this is a gap in the LD 126/1997 that must be filled especially in regard to regulations on clinical examinations carried out in order to determine the effectiveness and tolerability of the cosmetic products. Moreover, it will be necessary to specify the institutes that can be considered suitable for this research and the evaluation criteria.

It is clear that volunteers request should suggest ethical reasons requiring particular consideration and regulation by Health Authorities.

Finally, safety must be assured by qualified responsible professionals (the so called safety evaluator and the manufacturer who focus attention on the general toxicological outline of the ingredients, the chemical structure and the exposure level) in addition to that mentioned above (no more animals experimentation and alternative methods inadequacy) it is necessary to consider that:

- a) a future decree will define, on a community requirement basis, the guide-lines regarding the information obligations that manufacturing industries and those distributing raw materials for cosmetic preparations have towards buyers in order to draw up the dossier;
- b) it is therefore compulsory: - to have at the disposal of the Ministry of Health all possible information contained in the dossier; - to carry out the safety evaluation for human health in compliance with GLP requirements as provided for in the LD 120/1992.

The above described obligations are applied to national manufactures (of complete products and raw materials) and importers. With regard to the other requirements provided for in the LD 126/1997, it is fundamental to activate an adequate surveillance system to monitor all undesired effects connected to the use of cosmetic products. The operative approach to be used has yet to be defined but it must provide for data

collecting form. Moreover, as for imported products (art. 10-bis), an adequate decree must assure to know the importer in each product distribution and selling phase.

In order to put a cosmetic preparation onto the market, we still need to define and co-ordinate all aspects of the law for a global evaluation of the product conformance. All this must be carried out on the basis of rationally applied criteria of effectiveness, safety and quality, thus avoiding situations in which the products are considered effective but unsafe or, vice versa, safe but ineffective.

Unfortunately, the various delays and subsequent ministerial acts, currently foreseen in defining all pending issues of the law on cosmetics, the complexity of tasks assigned by law and the inadequacy of public structures and the required resources to carry out supervision operations, represent a huge limit that, in the long run, could play down the importance of each health prevention act in cosmetics.

In conclusion, in order to avoid or minimize all risks related to cosmetic use, it is fundamental to comply with all laws in force.

Attention should be focused especially on the following issues:

- adequate selection of raw materials that must be chemically and microbiologically acceptable with regard to their purity;
- GLP adoption in the study of raw materials;
- GMP, and adequate quality assurance system adoption;
- verification of topical effects of the complete product (good tolerability on skin);
- appropriate packaging in order to preserve the qualitative characteristics of the products;
- correct labeling of complete products regarding their composition and specific warnings; intervention advice in case of undesired effects;
- correct information about the real effectiveness of products by avoiding any advertise-

ment that could mislead the consumer or put him in danger;

- correct instructions for use and exposure.

As for public administration, it should:

- implement the still pending points of the law ;
- start surveillance activities in the whole territory both for national and imported products; verify the adequacy of the resources of these activities;
- create a database accessible to all Regions both to receive basic information and send their data;
- encourage professional training for different health workers;
- adequate public structures for the development of all these tasks.

Moreover, on the basis of a previous pilot study carried out in the Regione Lazio, we suggest the following initiatives:

- census of cosmetic manufacturing, packaging and exporting industries in each region;
- drawing up of a notified ingredients form;
- drawing up of a product form;
- setting up of a method to report all undesired effects (family doctor, dermatologist, chemist, center for antidotes) through an adequate form for data collection;
- definition of an interregional pilot program of surveillance.

The above mentioned initiatives have been considered by different regions; the results obtained will be discussed during a second specialization course on Cosmetic supervision to be held at the High Institute of Health next autumn.

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INFORMATION SOURCES FOR COSMETIC INDUSTRY PROFESSIONALS ON THE INTERNET

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Received: December, 2002

Key words: *information sources, web searching, cosmetics industry, information retrieval, Internet*

Summary

One ability all efficient professionals hone is maximising every affordable resource, and perhaps no resource is more affordable and easily accessible today than the Internet. Many professionals still don't utilise the Internet to its full capacity, what is understandable, because despite the existence of some excellent search engines it still takes a lot of time to sort the good from the outdated, the no-longer-existent and the irrelevant.

In this work you will first find a short overview of what is needed to successfully search the web, best search strategies and criteria for evaluation of information sources. Afterwards are listed sites of interest to cosmetic industry professionals divided into categories. The main purpose of this paper is to help cosmetic industry professionals do their jobs more easily, efficiently and effectively.

Riassunto

Con questo studio si è voluto dare una esatta panoramica di tutti i siti web in grado di fornire i criteri e le strategie necessarie per valutare le sorgenti di ricerca.

Ci si è perciò posti il problema di elencare tutti i siti di interesse per l'industria cosmetica in modo da aiutare i professionisti del settore a svolgere il proprio lavoro in maniera più facile ed efficiente.

Qualsiasi professionista efficiente deve dedicare il massimo sforzo nella ricerca ed utilizzare tutti i mezzi utili per il proprio aggiornamento tecnico. Internet rappresenta sicuramente il mezzo più facilmente accessibile. Molti professionisti non sono ancora in grado di utilizzare al massimo questa nuova tecnologia. Infatti se non si conoscono a fondo i motori giusti di ricerca è necessario troppo tempo per selezionare i dati veramente necessari ed utili al professionista.

A world of resources awaits the Net-savvy cosmetic industry professional. With the constant change of the market in mind, ever-busy cosmetic scientists, research centre managers, sales people, production managers and all the rest involved in cosmetic industry must keep an eye on many facets of their businesses, including process management, personnel training, efficiency-boosting software, new product launches, new raw materials, research data and much more to be able to compete. One ability all efficient professionals hone is maximising every affordable resource, and perhaps no resource is more affordable and easily accessible today than the Internet. Although technophobes are finding their numbers dropping, many professionals still don't utilise the Internet to its full capacity. This is understandable, because despite the existence of some excellent search engines such as Althweb, Google and Yahoo!, it still takes a lots of time to ride through the links to sort the good from the outdated, the no-longer-existent and the irrelevant. With this in mind, I have done some of the work for you to find the sites that can help cosmetic industry professionals do their jobs more easily, efficiently and effectively. First you will find a short overview of what is needed to successfully search the web, best search strategies and criteria for evaluation of Information sources. Afterwards are listed sites of interest to cosmetic industry professionals divided into categories.

OPTIMISING YOUR CONNECTION

Unless you've got a lot of free time and even more patience, the faster your Internet connection, the more satisfied you'd be with your system. The three most important factors in getting the most out of your time online are:

1. Modem - if you are using a modem to connect to the Internet, get the fastest modem

you can find. A fast modem is crucial to rapid page loading. Also, check into DSL (Digital Subscriber Line). This type of connection is becoming more widely available.

2. Browser software - if you haven't already sworn allegiance to one, check out both Internet Explorer and Netscape Navigator. Although both will take you to your favorite sites, the user interface, overall feel and performance is little different for each. You'll likely develop a clear preference, but whichever you choose, make sure to get the most recent version.
3. Computer - as with modems, faster is better. Get a computer with the fastest processor and the most memory you can afford, but keep in minds that computer speed is nowhere near as critical as modem speed when it comes to navigating the Internet.

IMPORTANT THINGS TO KNOW BEFORE YOU BEGIN SEARCHING THE WEB

When you do what is called "searching the web" you are NOT searching it directly, as it isn't possible to do. The Web is totality of the many web pages which reside on servers all over the world. Your computer can't find or go to all of them directly. What you are able to do is access one of several intermediate databases or web pages which contains selections of other web pages organized to allow you to find other web pages and sometimes other databases. Now available search tools are divided in four categories:

Search Engines and Meta-Search Engines - are able to search the full-text of selected web pages by keyword, they don't have subject categories or able to browse, databases are compiled by "spiders" (computer-robot programs) with minimum human oversight, coverage to maximum of 90% of the web. Examples are Altavi-

sta, NorthernLight, Google, Lycos, Alltheweb, Metacrawler, Metafind, and Dogpile.

Subject Directories - they are hand-selected sites picked by editors, more or less carefully, organized into hierarchical subject categories, often annotated with descriptions, no full text documents, can search only the subject categories and descriptions. Examples are Infomine, Librarian's Index, Yahoo!, Galaxy, Looksmart, etc.

Specialized Databases (The Invisible Web) - The Web provides access through a search box into the contents of a database in a computer somewhere, can be on any topic, can be trivial, commercial, task-specific, or a rich treasure devoted to your topic. Locate specialized databases by looking for them in good Subject Directories like the Librarian's Index, Yahoo!, or AcademicInfo; in special guides to searchable databases; and sometimes by keyword searching in general search engines.

Five-step search strategy

1. Analyze your topic to decide where to begin - ask yourself does your topic have distinctive word or phrases, seeks an overview or cover a broad topic, specifies a narrow aspect of a broad or common topic, have synonymous, equivalent terms or variant spellings or endings that need to be included. If you are a little confused about it, you need guidance - contact your corporate or academic librarian.
2. Pick the right starting place using following table:

Your topic features	Search engines	Subject directories	Specialized databases	Find the expert	LUCK
Distinctive word or phrase?	Enclose your phrase in "". Test run it in google	Search the broader concept, what your phrase is about	Look for a specialized database on Invisible web. Hard to predict what you might find.	Look for a specialized subject directory or mail an author of good page you found. Ask an expert. It never hurts to ask for help.	Always on your side. Keep your mind open and learn as you search.
NO distinctive word or phrase	Use more than one phrase in "" to get fewer results	Try to find distinctive terms in directories			
Seek an overview?	NOT RECOMMENDED	Look for a specialized subject directory			
Narrow aspect of broad topic	Boolean searching	Look for a directory focused on the broad subject			
Synonyms, equivalent terms, variants	Choose search engines with boolean OR, or truncation	NOT RECOMMENDED			
Confused, need more info	NOT RECOMMENDED	Look for a subject guide, in encyclopaedia or ask reference librarian			

3. Learn as you go and vary your approach with what you learn.
4. Don't bog down in any strategy that doesn't work.
5. Return to previous strategies better informed.

SEARCH STRATEGIES NOT TO BE RECOMMENDED

Because of their inefficiency and frustrating results, these strategies are not recommended to be used to find documents on the Web:

- Browsing searchable directories - browsing is sometimes fun, but not very efficient way to use directories. It is difficult to guess in which category your subject fits, as taxonomy is different from directory to directory and there is no unique way of classicizing on the web.
- Simple searching in large search engine databases - that is entering one or more words in search box separated by spaces. That type of search will give thousands of results, usually totally useless. This approach works only in small databases.
- Following links to sites recommended by popular vote or commercial interest - usually of low informational value, these sites are selected by how many times were they visited, or based on the fees paid to the browser. Taste varies and should vary, so make you own evaluations.

CRITERIA FOR EVALUATION OF INTERNET INFORMATION RESOURCES

Some authors have characterized the Net as a huge vandalized library where someone has destroyed the catalogue and removed front matter and indexes from most of the books. In addition, thousands of unorganized fragments are added daily by myriad cranks, sages and persons with time on their hands who launch their

unfiltered or spamed messages into cyberspace. In order to cope with these problems criteria for evaluation of Internet information sources has been compiled by Alastair Smith. These criteria are:

Scope - What items are included in the resource? What subject area, time period, formats or types of material are covered? Is the scope stated, e.g. through meta information such as an introduction, or only implied? Does the actual scope of the resource match expectations? Aspects of the scope include:

- Breadth - Are all aspects of the subject covered?
- Depth - To what level of detail in the subject does the resource go?
- Time - Is the information in the resource limited to certain time periods?
- Format - Are certain kinds of Internet resources (for example telnet, Gopher, FTP) excluded?

Content - Is the information factual, or opinion? Does the site contain original information, or simply links? Sites can be useful both as information resources in themselves and as links to other information. Is the resource an integral resource, or has it been abstracted from another source, perhaps losing meaning or links in the process? Specific aspects related to the content include the accuracy, authority, currency and uniqueness of a resource.

- Accuracy - Is the information in the resource accurate? Are there political or ideological biases? Frequently the answer is that the information is placed to advertise, or support a particular point of view.
- Authority - Does the resource have some reputable organization or expert behind it? Does the author have standing in the field? Are sources of information stated? Is the information verifiable? Can the author be contacted for clarification or to be informed of new information?

- **Currency** - How frequently is the resource updated, or is it a static resource? Are dates of update stated, and do these correspond to the information in the resource? Does the organization or person hosting the resource appear to have a commitment to ongoing maintenance and stability of the resource?
- **Uniqueness** - Is the information in this resource available in other forms? What advantages does this particular resource have? If the resource is derived from another format, for example print, does it have all the features of the original? Have extra features been added? Does it complement another resource, for instance by providing updates to a print source?
- **Links made to other resources** - If the value of the site lies in its links to other resources, are the links kept up to date, and made to appropriate resources?
- **Quality of writing** - Is the text well written? The bulk of the information content on the Web still lies in text, and quality of writing is important for the content to be communicated clearly.

Graphic and multimedia design - Is the resource interesting to look at? Do the visual effects enhance the resource, distract from the content, or substitute for content? If audio, video, virtual reality modeling, etc are used, are they appropriate to the purpose of the source?

Purpose - What is the purpose of the resource? Is this clearly stated? Does the resource fulfill the stated purpose?

Audience - Who are the intended users of this resource? At what level is the resource pitched: a subject expert, a layperson, or a school student? Will the resource satisfy the needs of the intended users? Does the user group have the connectivity to access the resource? Does your user group correspond to the intended audience?

Reviews - What do other reviewing services say about the site?

Workability - Is the resource convenient and ef-

fective to use? This is the area where criteria for Internet resources differ most from print sources. Aspects of workability include:

- **User friendliness** - Are any special commands clear? Is help information available? Have user interface issues been addressed, such as menu design, readability of screens, etc.?
- **Required computing environment** - Can the resource be accessed with standard equipment and software, or are there special software, password, or network requirements? Has the resource been designed to work well with one software and user interface but be difficult to use with others?
- **Searching** - How effectively can information be retrieved from the resource? Is a useful search engine provided? What operators and ranking features are available? Is the search engine interface intuitive? Does the search engine index the whole resource?
- **Browsability and organization** - Is the resource organized in a logical manner to facilitate the location of resources?
- **Interactivity** - Where interactive features such as forms, cgi scripts etc are provided, do these work? Do they add value to the site?
- **Connectivity** - Can the resource be accessed with standard equipment and software, or are there special software, password, or network requirements? Can the resource be accessed reliably, or is it frequently overloaded or offline? Is a local mirror site available, or do international traffic charges have to be incurred?

Cost - Currently Internet information resources are perceived as being "free". However costs do exist, and are likely to become more important. Costs can be divided into (a) costs of connecting to the resource and (b) costs associated with the use of the intellectual property contained in the resource.

Internet has created an expectation and an opportunity to make charged services available to end-users. If online transactions are used to pay

for information, the security of these transactions at a site may become important.

INFORMATION SOURCES

Sources of information interesting to cosmetic industry professional vary from legal sources over scientific to commercial and market information. They are divided into several categories and every source is shortly described. Each of them satisfies common quality criteria stated before but no detailed grading has been done, it is left to you as each of us has it's own preferences.

SEARCHING

Search engines and meta search engines: www.altavista.com, www.alltheweb.com, www.google.com, www.metacrawler.com, www.dogpile.com.

General Subject directories:
<http://infomine.ucr.edu>, www.lii.org,
www.yahoo.com and www.about.com.

Specialized databases: www.invisibleweb.com and www.freality.com.

At web page www.lib.berkeley.edu/TeachingLib/Guides/Internet/BeyondWeb.html#Guides you will find a long list of different directories and databases.

All those search sources are more generalized and are not specialized information sources. They are to be used if you can not find information on specialized web sites and databases mentioned below.

LEGAL, GOVERNMENT

European Union, European Commission, Enterprise, web page on Cosmetics: <http://pharmacos.eudra.org/F3/home.html> includes INCI names, cosmetic legislation, analysis, guidelines and other issues. Committees names, addresses,

web tools with some links to European institutions, all together excellent choice to see all EU regulations and other issues concerning cosmetics in one place.

European Union, European Commission, Consumer

Protection:

http://europa.eu.int/comm/consumers/index_en.html covers all issues about consumer protection and rights. If you are concerned by these questions, good place to start looking for information.

EUR-Lex (<http://europa.eu.int/eur-lex/en/index.html>) is search portal for EU legislation, including Official Journal, treaties, case law, parliamentary questions, etc. Well organized, good search functions and extensive help section.

European Union (<http://europa.eu.int>) portal with excessive information about EU, governing bodies, etc. Excellent starting point to all EU connected info.

Food & Drug Administration Center for Food and Applied Nutrition, Office of Cosmetics and Colors: <http://vm.cfsan.fda.gov/~dms/cos-toc.html> - this web page includes information for industry (regulations, guidance, registration and others), information about cosmetic products and ingredients and all other relevant information about cosmetic regulations in the US.

ASSOCIATIONS, SOCIETIES

COLIPA - The European Cosmetic Toiletry and Perfumery Association: <http://www.colipa.com> includes EU cosmetic directives, industry specific information, alternatives to animal testing, list of publications to order and extensive list of links to European institutions and animal welfare.

Cosmetic, Toiletries and Fragrances Association: <http://www.ctfa.org> is leading US trade association for the personal care products industry with about 600 member companies. Beside

other interesting information it comprises International Database with basic health laws, cosmetic regulations and other government rules governing cosmetic products for over 60 countries. Access is possible for subscribing CTFA members only.

IKW - *Industrieverband Koerperflege und Waschmittel*: <http://www.ikw.org> is German association of personal care and households products producers, working closely with national and European government at the issues concerning personal care and households products. The site is in German, but on the page "Brotschueren" you can find some of them in English, free to download. If the language is no obstacle, there is quite a number of interesting information concerning personal care and households products market.

Cosmetic Toiletries & Perfumery Association - <http://www.ctpa.org.uk> - is the trade association for UK cosmetic and personal care industry. Information available includes market statistics, regulations, list of publications (good titles there) and links section in which you can find information about trade shows and fairs. Very informative and well organized.

IFSCC - <http://www.ifsc.org> - besides publications, sites of interest, news and all other relevant data, there is member societies page with list of all societies and their web pages. Therefore I will not be listing societies web pages any further, I recommend you to go to following link and explore for yourself: <http://194.205.122.12/servlet/IfscDisplay?purpose=member>.

It also includes education section with the listing of all formal sources of education in cosmetic science in member countries. If you are interested in BA, BSc or MSc in cosmetic science take a look there.

ISCD - International Society of Cosmetic Dermatology (<http://www.iscd.it>) is a multidisciplinary non-profit association whose members are

dermatologists, cosmetic biologists and chemists. Founded in 1982 the goal of ISCD is to encourage a more continuous and stable exchange among the medical community, dermatologists, cosmetic chemists, pharmacologists, physiologists, toxicologists and experts of all other disciplines related to Cosmetic Dermatology. It provides a forum for the exchange of ideas and methodologies pertinent to the related disciplines and Cosmetic Dermatology. ISCD has at its credit the organization of international congresses and workshops.

ICMAD - Independent Cosmetic Manufacturers and Distributors (<http://www.icmad.org>) is as its name says association of independent manufacturers, mostly small or medium sized companies from US and some other countries. You can find some interesting information and insider tips for smaller companies how to compete with big global companies.

SCIENTIFIC

Cosmetic Ingredient Review (<http://www.cir-safety.org>) was established by CTFA with support of the FDA and the Consumer Federation of America. Although funded by CTFA, CIR and the review process are independent from CTFA and the cosmetics industry. The Cosmetic Ingredient Review thoroughly reviews and assesses the safety of ingredients used in cosmetics in an open, unbiased, and expert manner, and publishes the results in the open, peer-reviewed scientific literature. Publications section has complete list of cosmetic ingredient safety assessments, which makes it first choice in the search for safety information of cosmetic ingredients. Scirus (www.scirus.com) is specialised database for scientific information. Simple and advanced search options exists, covered are scientific web sites, patent databases and Science Direct, database from Elsevier science. It is excellent source of scientific information.

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THE EFFECTS OF HORMON REPLACEMENT THERAPY ON THE SKIN OF THE POST-MENOPAUSAL WOMEN

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Received: February, 2003. Presented at The 11th. EADV Congress, Prague, 2002

Key words: Hormone replacement therapy, transepidermal water loss, skin, tewameter, sebumeter.

Summary

The study was performed to compare skin pH, transepidermal water loss (TEWL), skin surface lipids and hydration in postmenopausal women receiving hormone replacement therapy (HRT) and those not. Two parallel age-matched groups (each 24) of 48 postmenopausal women evaluated by tewameter, sebumeter, pHmeter and corneometer. The assessments were performed on the forehead, nose, cheeks and chin. Exclusion criteria were diabetes mellitus, systemic illnesses, malignancies and longer duration of menopause (more than ten years). Group-I who received HRT showed increased sebum secretion and decreased TEWL when compared with Group-II, the untreated women. There was no significant difference between the two groups for pH of the skin and hydration. HRT may be effective against skin aging, but may have a negative effect on seborrheic disorders.

Riassunto

È stato ideato uno studio per porre tra loro in paragone il pH cutaneo, la perdita d'acqua transepidermica (TEWL), i lipidi di superficie e l'idratazione cutanea in donne in menopausa che assumevano una terapia ormonale di sostituzione (HRT) rispetto ad un gruppo di donne senza terapia.

I dati dei due gruppi, di 24 donne ciascuno, sottoposte a studio sono stati verificati mediante l'uso del tewameter, sebumeter pHmeter e del corneometer sulle aree cutanee di fronte, naso, guance e mento.

Sono state esclusi dallo studio tutti i soggetti con diabete mellito, patologie sistemiche, forme tumorali o in menopausa da più di 20 anni.

Il gruppo 1 dei trattati ha rivelato un incremento dei lipidi di superficie con una riduzione della TEWL rispetto al gruppo 2 di controllo. Il pH e l'idratazione cutanea sono rimasti invariati.

La terapia ormonale sostitutiva (HRT), può essere utile per l'invecchiamento cutaneo svolgendo però un effetto negativo nei confronti della seborrea.

INTRODUCTION

Significant hormonal alterations occur at the time of menopause, leading to physiological disorders of multiple organ systems and skin. Menopausal changes in hormones may alter the biomechanical properties of the body. Hormone replacement therapy (HRT) may have a profound influence not only on bones but also on skin (1). The aim of this study is to determine the effect of HRT on skin of postmenopausal women.

MATERIAL AND METHODS

This study was performed in Erciyes University Department of Dermatology between the dates of November 2001 and March 2002. Two parallel age-matched groups of 48 postmenopausal women were evaluated by computerized tewameter, sebumeter, pHmeter and corneometer (Courage+Khazaka, Köln-Germany) (2-4). Exclusion criteria were diabetes mellitus, systemic illnesses, malignancies, longer duration of menopause more than ten years and less than one year. Topical moisturizing creams and all cosmetics were stopped before 48 hours the evaluation. All patients were waited 20 minutes before tests. Temperature was 20-22 °C during the measurement. The assessments were performed on the forehead, nose, cheeks and chin. 24 women received combined estrogen-progestin replacement therapy not less than six cycles. Second group didn't receive HRT. We compared the results of postmenopausal women with or without HRT treatment. Statistical evaluation was based on paired student's t test. A p value < 0.05 was considered statistically significant.

RESULTS

The ages of patients were between 40 and 65 in-

group I, and between 37 and 70 in-group II. The mean age of group I and group II were 51.29 and 55.66 respectively. There was no statistically significant difference between the ages of two groups ($p > 0.05$). In group I, eleven patients had surgical and 13 of them had physiological menopause; and only two patients had surgical menopause in group II (Table I).

Group I have received combined estrogen-progestin replacement therapy not less than six cycles. Second group didn't receive HRT.

Sebum levels in group I was $96 \mu\text{g}/\text{cm}^2$ (average of forehead, nose, cheek and chin) and $78 \mu\text{g}/\text{cm}^2$ in group II. The difference was not statistically significant not only for each area but also for average values. However in HRT group four patients suffered from an increase of seborrheic condition of skin and hair. Skin hydration (corneometer) was slightly higher in group I but the difference was not significant also. pH was between 4.6-4.9. TEWL (g/cm^2) was slightly higher in group II but the difference wasn't significant (Table II).

However TEWL of forehead and cheeks were significantly decreased in HRT group ($p < 0.05$).

DISCUSSION

Genetic, hormonal, environmental factors are involved in cutaneous aging. Decreased sebaceous gland activity and hydration, roughness, hyper-hypopigmentation, telangiectasies, slackness are characteristic features of postmenopausal skin. HRT improves the woman's quality of life and plays an important role in the prevention of cardiovascular disease and osteoporosis (5). Its effects on skin and connective tissue are of remarkable interest, but its clinical and therapeutic correlations are still to be defined (1-7). Systemic HRT may prevent skin aging by increasing sebaceous gland activity, hydration, dermal collagen content and mitotic activity of keratinocytes.

Measurement of skin hydration, pH and sebum in vivo, using instrumental techniques which are non invasive, are based on the evaluations of biological and biophysical state of stratum corneum (4).

In this study we didn't observe a significant difference related with HRT, between sebum, pH, TEWL and hydration of the skin of postmenopausal women. There are some reports about the increase of skin surface lipids during HRT, which

may reflect stimulatory effects of progesterone component on sebaceous gland activity while estrogen alone has a sebum-suppressive action (6). It was suggested that HRT demonstrate a beneficial effect from a cosmetic point of view, but showed not to induce an abnormal increase in sebum production (3).

In our opinion HRT improves the barrier function of the skin, however seborrheic condition may be worsened during this treatment.

Table I
Demographic data of study groups

Groups		Ages (years)			Duration	Menopause type		Therapy
	n	range	mean	SD	(years)	surgical	physiological	
Group-I	24	40-65	51.29	5.44	1-10	11	13	HRT
Group-II	24	37-70	55.66	7.99	1-10	2	22	-

Table II
The results of measurements

Localisation	Forehead		Nose		Cheek		Chin		Average		p
Group	I	II	I	II	I	II	I	II	I	II	
Sebumeter ($\mu\text{g}/\text{cm}^2$)	133*	83*	119*	94*	95*	94*	42*	23*	96	78	0.11
Corneometer	38*	43*	15*	14*	50*	50.9*	29.5*	23*	33	32	0.87
pHmeter	4.7*	4.6*	4.9*	4.7*	4.9*	4.9*	4.87*	4.87*	4.8	4.8	0.97
TEWL (g/hm^2)	16.5*	27.2*	35.6*	34.2*	27.6*	32.5*	14.2*	19.7*	20.8	25.1	0.08
Median	16.13*	44.1*	35.9*	31.5*	26.7*	33.2*	14.5*	18.75*			
SD	0.97*	1.24*	1.48*	2.8*	1.95*	2.5*	0.6*	0.9*			
Temperature	25.17*	26.4*	26.2*	28.1*	27.7*	28.5*	27.8*	27.8*			
Real.humidity	52.50*	59*	63.9*	59.5*	53.2*	59.3*	44.3*	50. *			

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FACIAL REJUVENATION THE ART OF MINIMALLY INVASIVE COMBINATION THERAPY

By Nicholas J. Lowe

2002. 406 pages. Hardcover

£.129.95

ISBN 1-84184-095-5

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Aging skin is commonly associated with abnormal pigmentation, numerous lentigines, irregular melasma and telangiectasia. Moreover, there may be subchemical cancers and keratoses causing erythema, pigmentation and scaling.

Finally, there are evidence of wrinkling accentuating the natural lines of expression.

All these insults, affecting the quality of the skin, should be delayed or prevented as soon as possible to offer social, personal and professional advantages.

As matter of fact, perceived facial age is often the key to presumed chronological ageing. When evaluating, the attractiveness of females within an elderly population, the unattractive wrinkling tend to be viewed in terms associated with old age, viz deteriorated appearance, worn out, ugly.

By contrast older persons who have preserved their appearance and had aged well are associated with youthfulness and personable qualities of being young and healthy.

What is beautiful is good and attractiveness in the elderly is really equated with youthfulness. Given the power of the face, it is not surprising that people should seek to modify aspects of facial appearance and thus manipulate the responses of others.

The many treatment choices currently available are the topic of this interesting book that presents also an overall picture of the aging face, the factors that comprise it, and how these factors may be treated.

In 28 chapters and two appendices Facial Rejuvenation is a text that can enhance the skills of all physicians who practice the art of facial refinement of the aging skin.

After the introductory chapter 1, chapter 2 is entirely dedicated to the problem of Photoprotection with clothing and sunscreens.

This chapter is an up-to-date compendium of chronic effects of solar radiation on the skin, which sunscreen is available, what to avoid, and what to recommend.

Patients who are seeking advice about treating their aging faces are, in the author's opinion, wasting their time and money if they don't start to use, or continue to use, a broad-spectrum sunscreen.

Topical retinoids and other topical agents for the ageing face are respectively reported on chapter 3 and 4. The most discussed and dramatic effect of topical retinoids is their ability to efface wrinkles.

These vitamin A derivatives offer the physician a dynamic long-term treatment and prophylaxis of

photoageing and perhaps even ageing skin.

Moreover the contemporary use of topical preparation, such as cosmeceuticals with a documented and intended pharmaceutical activity, may be useful in improving the appearance of the aging face. More advanced cosmetic formulations with better stability and bioavailability and based on novel delivery systems, promise to offer products with enhanced efficacy in future.

For all these reasons these new products become to be classified as Clinically Correct Cosmetics.

However, people seek facial rejuvenation treatments to improve their psychological and social well-being and not for technical reasons.

For these reasons and in order to be effective, clinicians must be aware of their patients relevant history, understand the aims and motivation of their patients, and make a good preoperative assessment based on this understanding. This is the topic of the chapter 5.

Chemical peeling of the face may be defined as the application of an irritant chemical solution onto the skin for the purpose of improving or removing facial burn that may results in the partial destruction of the epidermis and rejuvenated epidermal and dermal tissues. Chapter 6 and 7 report methods of making single or combination peel solutions and their use in appropriate patient populations, detailing also the chemistry and physiology of the hydroxy acids and their utility in achieving cutaneous exfoliation.

A combination approach seems to give the best results with minimal morbidity and risk. It is the responsibility of the physician to have a thorough knowledge of all these tools to give each patient the correct treatment warranted by their condition.

There are many resurfacing techniques available, including peelings, abrasion and lasers.

Chapters from 8 to 12 are entirely dedicated to evaluation and treatment of aging face by the use of laser. The reported methods are both ablative and non-ablative resurfacing for skin rejuvenation.

Ablative methods often require a protracted recovery period that can be accompanied by significant morbidity. In addition they can lead to long-term adverse effects, including erythema, pigmentary changes, and scarring.

Non-ablative dermal remodeling techniques may induce dermal damage without epidermal disruption, offering minimal adverse sequelae and no recovery time.

However it is necessary to highlight that traditional and ablative resurfacing laser give better results in rejuvenating photodamaged skin.

Even though each laser treatment plan must be tailored to the patient's skin type, and the size and location of tattoos, hypermelanosis, port-wine stains, vascular lesions or wrinkling, there are some general basic principles that can be followed, such as appropriate laser systems, its careful application, the appropriate laser wave-length, and pulse frequency.

Moreover attempts have been done for avoiding also uncontrolled heat damage in resurfacing procedures. By the use of the right technique it is possible to ensure an extremely precise control of tissue ablation with only minimal residual thermal damage.

Botulinum toxin is the cosmetic treatment of choice of the upper facial aging.

The use of botulinum toxin is the topic of chapters 13, 14 and 15.

The therapeutic benefits derived from a local injection of a botulinum neurotoxin preparation are based on the site-specific delivery and its high-affinity uptake by cholinergic neurons.

This results in a temporary chemodennervation and the loss of reduction of activity of the target

organ. The combination of delivery method, low dose and neuronal uptake provides a reasonable measure of local efficacy with minimal systemic adverse effects.

Thus the clinical use requires precise injections of botulinum neurotoxin into specific muscles to cause a temporary chemodenervation of the skeletal muscle and the relief of the clinical symptoms. The primary effect is one of controlled muscular relaxation that lasts for several months, until existing synapses reactivate or are newly formed.

Botulinum toxin injection is useful as both a primary aesthetic enhancement and also as an adjuvant to surgical brow lift, blepharoplasty, and ablative and non ablative resurfacing procedures.

For glabellar furrows, horizontal forehead lines, asymmetric eyebrow height, crow's-feet and lateral brow ptosis, botulinum treatment offers an effective safe, and affordable intervention with virtually no down time for the subject.

However on the combination treatments a detailed analysis of the patient's facial lines and skin condition needs to be performed to allow for the optimum treatment and treatment sequence.

The hyperfunctional muscle lines are best treated with botulinum toxin injections.

Changes in skin are best treated with chemical peels or laser resurfacing. Persistent lines may be treated with injectable filler substances such as collagen or hyaluronic acid.

Often, the patient's facial-line therapy requires a combination of these techniques.

European and USA experiences on temporary dermal fillers are respectively reported in chapter 16 and 17.

The use of reasonably long-lasting and effective implants to be injected have been approved for use in several country around the world. This provides an easy solution for many patients who have scars, depressions, etc. that result from trauma, infections, acne, or other conditions and can also be used for the treatment of wrinkling.

These implants are known as dermal fillers. In Europe most of these consist of various types of hyaluronic acid, in USA the most commonly implants utilized are autologous fat and collagen, with injectable bovine collagen being the single most popular substance used for soft-tissue augmentation.

In the last years soft-tissue augmentation has become increasingly important as more individuals seek aesthetic improvement without major surgical procedures.

Filler substances are indispensable tools to be used when treating the face as stand-alone treatment or in conjunction with laser resurfacing, botulinum toxin and chemical peel. The difficulty comes in choosing the proper treatment techniques and meeting patient expectations.

Even if there are many injectable substances available for soft-tissue augmentation, it is not what is used that is most critical, but how it is used.

A physician should not be a jack of all trades and a master of none.

The choice of implant material should be based on the location of the defect, the potential for hypersensitivity reaction, the desire for permanency and the patient's feelings about the need for a natural feel of the implant.

Of course, safety should be the primary concern when using any implant material and, thus, to do no harm.

Liposuction of the neck and microlipoinjection of the face, by the use of autologous fat, is the topic of chapter 18.

Fat harvested expressly for transfer or incidental to body liposuction procedures can be used to inject

the nasolabial folds, cheeks, chin, mental creases, lips and even the temples and forehead.

This chapter is focused on the techniques used for liposuction and lipotransfer in the face, with emphasis on variation limitations, as there are as many different methods as there are surgeons.

However the major problem with fat transplantation and injection is its unpredictability. Certainly, when the graft takes, the results can be gratifying; moreover, more often than not, the material is slowly broken down and absorbed, and repeated injections may be needed.

Aesthetically, the appeal of the fat remains. It can provide broad contouring that is soft and natural, which is difficult to achieve by any other means at present.

For permanent injectable implant devices, reported on chapter 19, patient selection and attention to implantation-technique is essential.

Patients need to be fully informed as to the potential problems of this technique, of the need for possible implant removal. Moreover they have to be warned of the possibility of irreversible complications. In chapter 20, follows the description of a technique for the lip augmentation by the use of an alloplastic material.

Together with hair transplantation techniques for the restoration of male or female pattern baldness on chapter 21, facial hair removal by electrolysis and laser technique for treating small areas has been treated on chapter 22.

These two hair removal methods are in fact complementary in the field of facial epilation and may be easily used on the upper lip, the submental and the cheek areas.

In treating facial hairiness, a balance must be struck between the following factors: the hair-free interval; pain control and efficacy, which is related to the patient's expectation of outcome.

The chapter 23 is dedicated to the Minimally invasive procedures in periocular rejuvenation, combining treatment such as botulinum neurotoxin, eyelid surgery and browlift with non ablative resurfacing.

By these combined procedures it is possible to obtain a pleasing fresh, youthful and harmonious aesthetic result.

Combination of endoscopic surgery with other techniques in aesthetic facial surgery is the technique reported on chapter 24.

Endoscopic procedures without skin excision need elastic skin to adapt to the reposition and tension. Before and after surgery, patients benefit from entering a skin program with moisturizers, sunblocks and facial peels to maintain the benefits achieved. Patients who are fully healed and beyond 6-8 weeks post-procedure would be suitable for surface laser treatments over the undermined skin without undue concern about skin necrosis. This would address the fine wrinkles, solar elastosis, damaged collagen and pigmentary changes.

The appearance of the neck is often a matter of prime cosmetic concern to patients. As matter of fact, the shape and contour of the neck may alter with age, developing sagging, bagging, double chins, and so on.

Until recently, the only treatment method available for such changes was rhytidectomy or facelift all both extensive surgical procedure.

The procedure described on chapter 25 is a safe and effective peel method for non-facial skin. It utilizes a combination of 40% trichloroacetic acid (TCA) and 70% of glycolic acid gel as peeling agents.

It is important to use glycolic acid gel because it acts as a partial barrier to TCA penetration; liquid glycolic acid does not perform this role, so that combining it with TCA can result in too deep a peel on the body.

The authors of this chapter have found the 40% TCA formulation to be preferable to a lower strength because it unable TCA to penetrate deep enough into skin lesions such as keratoses and lentigines. A copious amount of sodium bicarbonate solution is used to neutralize the acids and stop the peeling at a time determined by the physician. Careful physician attention to the timing of the peel and prompt neutralization at the proper end-point are critical to the consistent success of this technique. This method permits precise timing, so that the extent and depth of the peel are almost entirely technique dependent.

The procedure is primarily effective in reshaping the contour of the chin and neck, and tightening the skin.

On chapters 26 and 27 are reported the methods used for providing serial photography necessary to record the change in a patient's appearance over time.

The first step in obtaining consistent photographic documentation is ensuring consistency in the subject being documented. At this purpose all patients should wash their faces prior to photography, all photographs in a series should be framed in exactly the same manner. Subject distance must be kept constant from timepoint, the color, intensity, direction of the light, the ambient lighting, exposure and metering have to be always the same.

As such, the accuracy of photographic records warrants as much consideration as the accuracy of any other piece of documentation in a patient's chart.

Therefore image standardization should be the main goal of every clinician and this has been greatly improved by digital technology.

By this technology, one can post-process images to adjust for some parameters that were not standardized at the time the image was taken.

When and how to combine treatments is reported on chapter 28 for helping the reader to treat the its own patients. The reported patient examples are just some of the ways in which combination therapy can be used.

This interesting book ends with two important appendices regarding the consultation procedure and the *patient information* and *consent forms*.

Thus some examples of patient information and consent document are reported. These forms has to be given or sent to the patient before any procedure is performed. Comprehensive information and costs of the planned treatments ensure that the patient has the full information necessary to make an informed choice about the procedures and whether to proceed.

In conclusion opinion that this book on Facial rejuvenation should be in the personal library as a scientific and practical volume useful for plastic surgeons every day consultation and for dermatologists, and non-specialist physicians who desire to enter the field of rejuvenation treatments.

Interesting is for all who directly or indirectly are in the full shaped world of Cosmetic Dermatology and Cosmetic Surgery.

P. Morganti
Editor in Chief

ABLATIVE AND NON-ABLATIVE FACIAL SKIN REJUVENATION

By David J. Goldberg

2003, 261 pages, Hardcover

\$, 65.00

ISBN 1-84184-1757

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Extensive clinical experience suggests that laser resurfacing seems to have the advantage of improved reproducibility and control compared with chemical peeling and dermabrasion. Thus many studies have shown that CO₂ laser resurfacing, for example, can produce improvement comparable to deep peeling without damaging the reticular dermis.

On the other hand phenol peels improve deep rhytides but produce deeper injury and slower healing. Moreover, periorbital and perioral rhytides are more effectively treated with the laser than with other modalities.

This interesting volume reviews the various layers, light sources and radio frequency devices used for facial rejuvenation. The Biology of Collagen and Cutaneous Wound Healing are the goal of the first two chapters.

As matter of fact, collagen represents the main fibrillar components of non connective tissue being involved in the process of wound healing.

The physiologic role of collagen fibers in the skin is to provide for the framework and mechanical strength of skin. Collagen proteins are trimers involving three individual polypeptide chains known as alpha-chains.

Each polypeptides, coiled around each other in a right handed triple-helix, is composed of about 1000 amino acids with glycine occupying every third position and distributed in a repeating GLY-X-Y sequence.

The X position is often occupied by proline and the Y position is mostly occupied by hydroxyproline. Normal human dermal collagen is roughly 80% type I and 10% type III collagen.

Because reducing agents such as ascorbate and oxygen are required for the formation of hydroxyl groups in hydroxyproline, ascorbic acid deficiency and relative anoxia lead to poor wound healing and decreased tensile strength of the skin. Moreover thermal effects of heated collagen depend on the degree of temperature elevation and its chains shrink at 61°C to 63 C°.

The tensile strength of shrinkage collagen also depends on the mechanical properties of the surrounding tissue. However as the temperature keeps rising, more collagen cross-links are disrupted. For all these reasons limiting the laser-tissue interaction time, thermal damage may be reduced. Therefore by combining high fluencies (energy/unit area) and short laser tissue times or by scarring a highly focused continuous mode beam, it is possible to obtain, by laser systems, precise tissue vaporization with minimal residual thermal damage.

Thus the goal of laser resurfacing is the clean, char-free, layer-by-layer ablation of skin, resulting in

the absolute of relative effacement of lesions while avoiding the creation of excessive dermal injury that could result in scarring or other untoward complications.

As matter of fact, the process of cutaneous wound healing is an integration of dynamic interactive phenomena that begin with tissue injury.

The response to this injury may be divided into three overlapping phases, all well described in the chapter 2: an inflammatory phase, a proliferative phase, and a maturation phase.

These responses occur, in fact, in the healing of any wound, including those seen after ablative and non-ablative resurfacing.

Carbon dioxide, Erbium: YAG and combined laser resurfacing techniques are reported respectively on chapters 3, 4 and 5.

Currently available CO₂ lasers ablate tissue by emitting brief pulses of high energy (10,600 nm) which greatly minimizes cutaneous thermal damage.

These lasers destroy tissue by a photothermolysis, wherein employment of the correct wavelength and pulse duration of laser light could effect a selective destruction, rapidly heating and vaporizing tissue water.

When the CO₂ laser interacts with skin, its induced heat dissociates collagen's interpeptide bonds and collagen contraction occurs.

The carbon dioxide laser resurfacing is highly effective in the treatment of photodamaged skin. In addition to superficial ablation the obtained tissue tightening effect seems to be related to heat-induced collagen shrinkage which occurs maximally at 63°C.

According with the author's experience, CO₂ lasers are highly effective when used for the treatment of Class I – II rhytides and some acne scars on Fitzpatrick skin types I – IV. However, it should be expected that almost skin type IV individuals will show some evidence of post-inflammatory hyperpigmentation.

The treatment technique consists of pre-operative cleaning of the skin under light sedation, covering all the adjacent areas with wet towels.

What is also important is that the wound has to be kept moist until complete re-epithelization has occurred (generally within 7-10 days).

Use of antiviral agents is mandatory during this entire period. Although CO₂ laser treatment has been joined by other ablative and non-ablative techniques, it remains the gold standard with which all other methods are compared.

The Erbium: YAG (Er: YAG) laser, with its 2940-nm wavelength is more avidly absorbed by water, ablates more superficially and produces less thermal condition than CO₂ lasers.

The threshold ablation for Er: YAG is 1.5 J/cm², compared with 4 to 5 J/cm² for CO₂ laser, while the thermal relaxation time is 50 microseconds compared with 1 millisecond with CO₂ laser. Consequently, more precision in skin ablation is possible.

This methodology, for the author, is highly effective when used for the treatment of Class I early Class II rhytides (fine lines) and mild photodamage on skin types I – IV.

However, it should be expected that even with these lasers darker skin types will show some evidence of post-inflammatory hyperpigmentation.

As for CO₂ laser, Er: YAG laser has to be used accordingly with the clinical experience and professional judgment of the plastic surgeon. By the use of this laser is also mandatory to take antiviral

agents by oral route and to keep moisturized the wound until complete re-epithelialization has occurred (5-7 days).

The combined Er:YAG/CO₂ and/or the variable pulsed Er:YAG lasers seem to decrease time to complete resolution of post-operative layterm and result in a decreased occurrence of clinically significant or permanent post-operative hyperpigmentation and hypopigmentation.

Their effect and healing response appear to be a nice compromise between the more aggressive, albeit not as effective short-pulsed Er:YAG lasers.

Numerous are the conditions that can be improved with these laser techniques.

Together with rhytides and scars, tissue re-epithelialization, new collagen formation, and collagen tightening play active roles in improving the cosmetic appearance of the skin. But it is important for the potential patient to understand that swelling, slight burning, and pruritus are common whereas pain is not.

Moreover there are myriad risks that accompany the use of the laser as a surgical tool, and adequate explanation of possible problems should be discussed before the treatment is begun. Scarring, permanent and transient pigment changes, infection, and therapeutic laser limitations are the most common risks associated with laser resurfacing.

All the indications and contraindications of laser's use are well described and documented by many photographic results reported and discussed in these three chapters by the author's book and others scientists.

However these laser systems provide new and effective methodologies to treat and resolve a variety of skin defects, many of which are not cosmetic.

Chapter 6 is focused on Electrosurgical skin resurfacing methodology that involves the application of low voltage energy through multiple current delivery electrodes.

The electrosurgical device used generates radio frequency energy sufficient to achieve tissue ablation. The delivered energy in combination with saline conduction media generates an ionized vapor (or plasma) layer that dissociates the treated skin.

This electrosurgical resurfacing method causes a localized tissue ablation, secondary to heat transfer and molecular dissociation of tissue.

The overall depth of injury seen with this electrosurgical resurfacing can be similar to that seen with CO₂ laser, but may also have a decreased morbidity and shorter recovery time. However, because there are few reported studies, this methodology requires other experiences to determine its true efficacy and utility skin resurfacing.

Chapter 7 discusses the results of the laser skin resurfacing using the non-ablative dermal remodeling. These non-ablative techniques provide a cosmetically elegant method to improve the quality, tone and texture of skin.

The primary mechanism of the non-ablative treatment, based on pulsed char-free carbon dioxide laser skin resurfacing, is thermal denaturation of collagen associated with unwinding of the triple helical structure of the collagen molecule.

This is thought to occur either through dermal water absorption or through dermal water absorption or through a direct effect on dermal vasculature with resultant leakage of vessels and wound formation.

According with the author the non-ablative techniques may be helpful with Class I rhytide indivi-

duals or with deeper rhytides who are willing to accept less clinical improvement than the ones seen with ablative techniques.

Ideally these techniques, that take less than 30 minutes, are combined with other modalities such as microdermabrasion botulinum toxin injections and filler agents.

They are meant to be used for those individuals who don't wish to take time away from their daily activities in order to laser-improve the quality of their sun damaged skin. But technique is not meant for those with extensive solar induced epidermal pigmentary changes. All the possible complications of laser resurfacing are reported on chapter 8.

As a matter of fact, with any technique there is the possibility of complications such as oozing, crusting and swelling.

Post-operative erythema may also occur following ablative and non-ablative procedures and is often proportional to the depth of ablation. Other short-term or permanent complications include prolonged erythema, hyper and hypo pigmentation, contact dermatitis, milia, hypertrophic scarring, etc.

The risk of such complications can be minimized with experience patient selections, and correct surgical technique.

Moreover appropriate wound care after ablative technique is mandatory to promote wound healing. The last chapter is focused on Marketing facial skin rejuvenation.

One of the most important methods of achieving a successful aesthetic practice is the management of patient's expectations. The success ablative and non-ablative technique is in fact, very dependent upon creating realistic expectations in the potential patient. It is imperative that the patients fully understand the pros and cons of each technique.

In today competitive climate, it is often vital to the success of an esthetic medical practice that these services and products be marketed effectively.

Therefore it is critical to let potential clients know who you are and what you offer.

For all these reasons a good marketing is necessary to obtain the best results.

Marketing is, in fact, a summation of all the activities and procedures that a physician, as the provider of a product, must perform/implement to deliver the product into the hands of the consumer.

After a well documented description of all the keys point necessary to better understand the significance and the importance to organize a well done marketing plan, the book ends.

Ablative and non-ablative skin rejuvenation results interesting also for the over 250 color photographs and the extensive references reported together with the description of all the today's light sources and radio frequency devices used for facial rejuvenation.

The completeness offered makes this book crucial for all the skin's specialists such as, plastic surgeons and dermatologists, in their everyday job.

Moreover it may be useful for all the physicians who want to know better all the more recent methods necessary to improve the skin's appearance.

P. Morganti
Editor in Chief

USING BOTULINUM TOXINS

By J. Carruthens and A. Carruthens

2003. 81 pages. Hardcover

Over 100 colour illustrations

40 minutes CD film

£ 150.00

ISBN 1-84184-217-6

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This book divided in 9 chapters, describes the state of art of knowledge in theory and practical use of botulinum neurotoxins for common facial and neck treatments.

Self rejuvenation has become, in fact, a huge industry because of the power of beauty to modify perception and behavior of our exterior aspect.

After a brief introduction about the purposes of the book, the modern philosophy of leaving is reported on chapter 2.

People today seek to appear rested, relaxed, harmonious and at peace. The use of cosmetic botulinum toxin is an important aesthetic determinant to reduce the appearance of upper and lower facial and cervical rhytides (wrinkling).

Botulinum toxin (BTX) is a neurotoxin produced by *Clostridium botulinum* under anaerobic conditions. The family of BTX includes seven distinct serotypes identified as A, B, C1, D, E, F and G.

Botulinum A and B, composed of different strains of bacteria, are commercially available worldwide. The doses required with type B are many times greater than those used to treat the same indication with type A.

The therapeutic benefits derived from a local injection of a BTX preparation are based on the site-specific delivery and its high-affinity uptake by cholinergic neurons. This results in a temporary chemodervation and the loss or reduction of activity of the target organ.

However BTX therapy has been demonstrated to be safe in a variety of conditions when administered appropriately.

The toxin A, BOTOX, is manufactured by Allergan Pharmaceuticals; Toxin B, Myobloc and Neurobloc, is manufactured by Elan Pharmaceuticals.

The cosmetic injection of BTX is much more like a surgical technique than a traditional simple isolated large muscle injection. Its required dose to achieve a given result may varies with a number of individual variables, such as body weight, age, sex dose, number of injection etc.

Finally the informed consent for BTX treatment is very important. Patient has to understand the basic pharmacology and likely effects, including any transient bruising, the typical time course of the clinical effect and the need for re-treatment after 3-6 months. Subjects should also know about all the potential adverse events and contraindications of this cosmetic treatment.

Chapters 4 to 8 are focused on the treatment respectively of Brow and periorbital area, horizontal forehead lines, mid and lower face lines, and cervical area. For the treatment of all these different areas, the injection technique, the quantity of BTX to be used and all the advices for obtaining the

best results are reported together with the positioning to inject, the relative demonstrating designs and color photographs taken before and after the BTX use.

What is important to underline is that BTX injection may enhance the results obtainable with soft tissue augmentation and laser resurfacing, especially in the lips, perioral regions and in the lower face.

Injection of the mid and lower facial musculature requires a much smaller unit injection dose than muscles in the upper face. Overdosing of the mid and lower facial musculature can give the appearance of a facial palsy and the result can last for approximately 6 months.

In combinations with other modalities, adjunctive use of BTX, such as round eye and facial wounds repair, or rhytidectomy are reported on chapter 9.

Therefore the versatility of BTX makes it a natural leader in the cosmetic world.

This is the conclusion of the authors' book.

The simplicity in description makes this book surely very useful for all the physicians, specialist and not, who wish to understand better the use of the botulinum toxin.

The interesting CDrom included in the book, with over 100 color photographs, describes live the techniques used, the way of injection and the necessary doses for modifying facial defects resulting an useful tool for all medical doctors and students of medicine who are interested in understanding the pharmacology and the techniques for a correct use of BTX and to re-learn the facial muscular anatomy.

Who is familiar with the use of CD will find interest in knowing both the authors of the book and in verifying directly the practical use of Botox for the different skin areas. Practical treatments are always accompanied by detailed figures of the muscles interested and by a background voice speaking with the patient to clarify furthermore BTX technique and doses use.

P. Morganti
Editor in Chief



Press Release

HairS'03 in Potsdam/Germany

The 13th International Hair-Science Symposium HairS'03 will take place in Potsdam/Germany from September 10-12, 2003. HairS'03 is organized by DWI (German Wool Research Institute, Aachen). Interested colleagues from industry and academia are invited to submit proposals for lectures before March 21. The programme will comprise latest results on scientific and practical aspects of hair care, from products research to development, analytics, evaluation, and marketing.

The number of participants is restricted to 100. The first circular is available from the website

www.dwi.rwth-aachen.de

or can be ordered from DWI:

phone ++49 241/44 69-129

fax ++49 241/44 69-100

contact@dwi.rwth-aachen.de

First Announcement

***First World Congress on Work-Related and
Environmental Allergy (1STWOREAL)
&
Fourth International Symposium on
Irritant Contact Dermatitis (ICD)***



Helsinki, Finland, 9 - 12 July 2003
www.woreal.org
e-mail: secretariat@woreal.org

General Information

Venue. The congresses will take place at Marina Congress Center, in central Helsinki by the passenger harbour.

The Second Announcement and Call for Papers is scheduled for October 2002. It will include detailed programmes, registration information and a call for free communications and posters. To receive it, please mail the attached request-slip or send a request via e-mail.

The social programme will include a get-together party, a reception at City Hall and a banquet. For accompanying persons there will be excursions in Helsinki and its environs. Post-congress tours will include Estonian Tallinn and Russian St. Petersburg.

Medical/technical exhibition. Suppliers of products and services to physicians and researchers will find an opportunity to meet with an estimated 600 medical specialists from some 40 different countries.

The Allergy School is a satellite event organised by Professor Tari Haahtela. For information contact

Ms. Sinikka Hänninen
Skin and Allergy Hospital
Helsinki University Central Hospital
e-mail: sinikka.hanninen@hus.fi

The 7th International Niva Course on Work-Related Respiratory Hypersensitivity is a satellite course organised by the NIVA Institute. For information contact

Ms Pirjo Turtiainen
Finnish Institute of Occupational Health
Telephone +358 9 47 47 23 49
e-mail: pirjo.turtiainen@ttl.fi

Hotel accommodation and transport. All categories of accommodation will be offered. One of the hotels is Scandic Hotel Grand Marina just across the street from the congress venue. For information on travel and hotels contact

Congreszon Ltd.
Ms. Terttu Seppänen
Itälahdenkatu 22 A
FIN-00210 Helsinki, Finland
Telephone: +358 9 58 40 93 51
Telefax: +358 9 58 40 95 55
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Weather. July is mostly sunny and warm in Helsinki. The sun is up more than 18 hours. The average afternoon temperature is 20 degrees, and the risk of rain is 29 percent.

Congress secretariat

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9th World Congress on
Cancers of the Skin
May, 7 - 10, Sevilla (Spain), 2003

PRELIMINARY PROGRAM



MEETING AND EXHIBIT LOCATION

Hotel Alcora Sevilla (Spain).
May 7 to 10th, 2003

LANGUAGE

The official language of the meeting is English.
Spanish-English translation is planned for the Scientific Sessions only depending on sponsor support.

TECHNICAL EXHIBITION

The technical exhibition will take place within the Conference Centre of the Hotel, in close proximity to the main meeting rooms. Exhibit space may still be available on a first-come, first-served basis.

Contact:

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Prof. Ass. Clinica Dermatologica e Resp.
Centro Dermatol. Chirurgica, Università
Cattolica del Sacro Cuore- Roma

PROGRAMMA

13.30 Registrazione Partecipanti

14.00 Benvenuto ed Apertura dei lavori

14.10 Topici e Biostimolanti: attività, assorbimento ed efficacia su cute e mucose

15.10 Peeling cutanei: scopi e funzioni

16.10 Filler cutanei: modalità d'uso e tecniche iniettive recenti

17.10 Acne: metodologie terapeutiche topico-sistemiche

18.10 Cheloidi e cicatrici: funzioni terapeutiche delle tecniche occlusive e della biostimolazione

19.10 Integratori alimentari: efficacia in Dermatologia e Ginecologia Cosmetologica

20.00 Chiusura dei lavori e Cocktail

CALENDARIO DEI CORSI 2003

CITTA'	DATA
Napoli	5-maggio
Montecatini	13-maggio
Roma	24-giugno
Torino	4-luglio
Padova	19-settembre
Milano	20-settembre
Macerata	27-settembre
Agrigento	11-ottobre
Cagliari	24-ottobre
Bari	7-novembre
Messina	29-novembre

SCHEDA ISCRIZIONE

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Quota d'iscrizione versata ☐ non versata ☐Attestato di partecipazione sì ☐ no ☐

Da compilare chiaramente in ogni sua parte e consegnare al momento della registrazione.



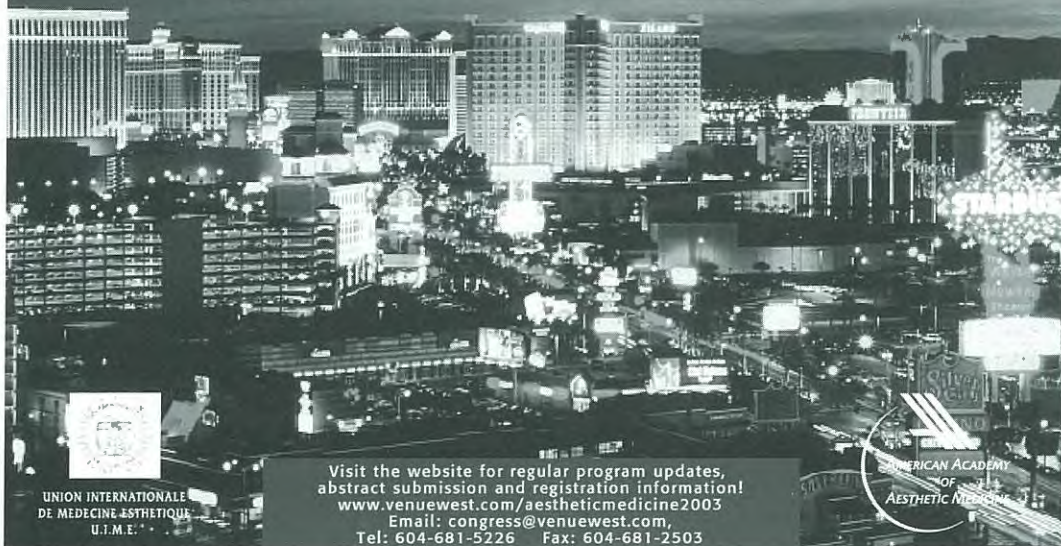
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- * Skin resurfacing
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- * Cosmetic surgery
- * Mesotherapy
- * Medical prescription
- * Botulinum toxin
- * Balneotherapy
- * Malpractice issues
- * Ethical challenges and decisions
- * Rosacea
- * Marketing your practice
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- * Photography
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In copertina /Front cover

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Chiuso in tipografia: Giugno 2003

Journal of Applied Cosmetology published quarterly by INTERNATIONAL EDIEMME, Via Innocenzo XI, 41 00165 Roma, Italy. Direttore responsabile: P. Morganti. Direzione, Redazione ed Amministrazione: Via Innocenzo XI, 41 - 00165 Roma, Italy. Impaginazione e Stampa: Grafica Flaminia, Roma. Copertina: Dr P. Morganti - Roma Italy - Sped. abb. Postale Comma 34 art. 2 Legge 549/95 Roma. Aut. del Trib. di Roma n. 3173/83 del 8-7-83.

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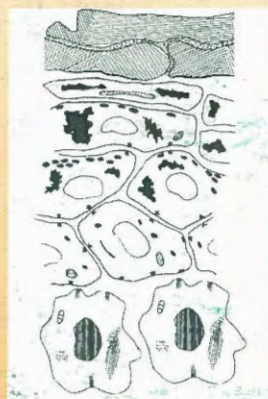
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